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OFFICE OF THE
DIRECTOR OF MEDICAL SERVICES,
HEALTH DEPARTMENT,
ZANZIBAR,.

14th May, 1960

Sir,

I have the honour to submit for the information of His Excellency the British Resident and for transmission to the Right Honourable the Secretary of State, the Medical Report of the Health and Sanitation conditions of the Zanzibar Protectorate for the year 1959.

I have the honour to be,

Sir,

Your obedient servant,

I. W. MACKICHAN,
Director of Medical Services

THE HONOURABLE

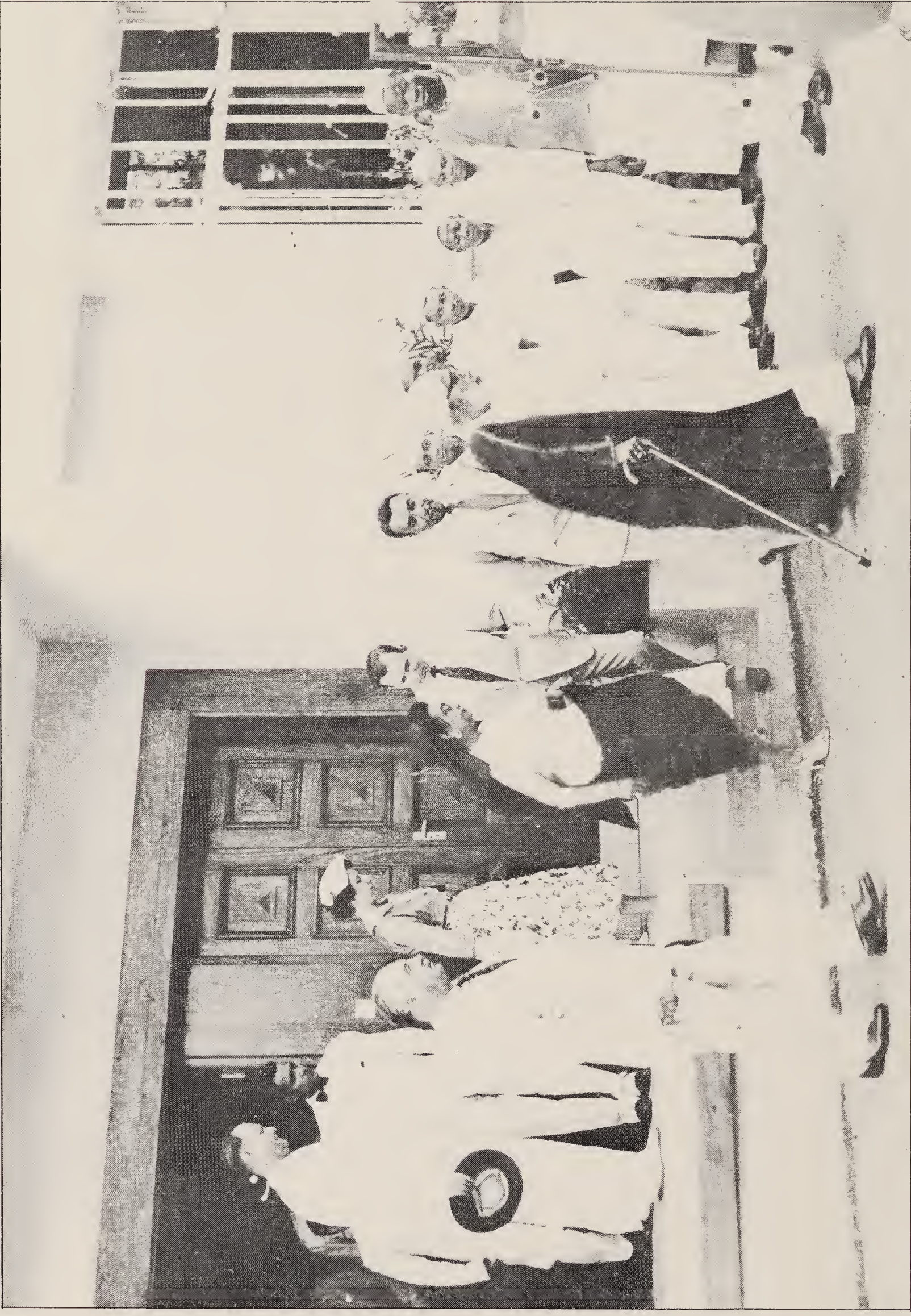
THE CHIEF SECRETARY TO THE GOVERNMENT,

ZANZIBAR.



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H. H. The Sultan Visits Zenubai Karimjee Hospital, Wete, Pemba

Health Department Annual Report 1959

1. General Information

1. Zanzibar Protectorate consists of two islands, Zanzibar and Pemba. The former is about 50 miles long and 25 miles wide and 640 square miles in extent, and the latter is about 40 miles long by 15 miles wide, and of about 380 square miles in area.

2. The climate is tropical and generally enervating. From December to March when the north-east monsoon blows, it is hot and dry. In April and May the heavy rains occur, while from June to October when the south-west monsoon blows it is coolest and driest. The average rainfall is about 60 inches in Zanzibar and 73 inches in Pemba.

3. The total population of the Protectorate as determined at the recent census (1958) was 299,111. Of this total 165,253 live in Zanzibar Island, and 133,858 in Pemba.

4. The majority of the population live in the rural areas of the two islands, the largest town being Zanzibar with a population of 57,923 as determined in the 1958 census.

5. The vast majority of the population profess the Muslim faith.

6. The majority of the people are engaged in agricultural pursuits and in fishing. Those in the towns are in public or private employment or in business and trading.

7. The staple diet of the rural communities is rice or cassava supplemented by fish, coconuts, fruit and vegetables.

8. The country's revenue is derived chiefly from taxes on the export of cloves and copra and from import dues.

9. With the exception of a small nursing home in Zanzibar town, maintained by the Ismaili Koja community, and a small maternity home administered by the Zanzibar Maternity Association, all hospitals in the Protectorate are Government Institutions.

10. There are seventeen private medical practitioners in Zanzibar Island, and four in Pemba.

11. There is one private dental practitioner in the town of Zanzibar.

12. There are six licensed druggists, all of whom are established in Zanzibar town.

13. The estimated Protectorate expenditure for 1959 was £2,796,557 of which £319,616 was devoted to Health Services representing approximately 11 per cent. of the total budget.

2. General Remarks

14. By the end of the year the second cycle of spraying was completed in connection with the WHO—UNICEF assisted project for the eradication of malaria. On the whole the co-operation of the public in this project has been excellent, and only very few definite refusals to allow the team to enter houses were encountered. In Pemba some difficulty was found in that the spraying coincided with the clove picking season. As the price of cloves was low, few labourers came from the mainland, and most of the clove picking was done by local labour. This meant that the population tended to move about the island, and at times whole villages were found deserted. With the help of the local authorities, however, practically all houses were sprayed. In all 23,024 houses were treated between January and February, and 40,048 between September and December. In Zanzibar island 56,744 were sprayed between February and August.

15. A spleen and parasite survey was carried out in October and November, 1959, in certain rural areas in Zanzibar island to obtain data comparable with the results of a similar survey in October, 1957. During the intervening two years two spraying cycles with dieldrin had been carried out. At the same time infant parasite surveys were carried out in Zanzibar island on a one year post-spraying basis. Blood films collected from babies attending the Hassanali Karimjee Jivanjee Hospital, Zanzibar, were also examined. As previously, the majority of the positive cases came from outside Zanzibar island, and the numbers of children born and living in Zanzibar with positive slides remained few in number. The distribution of anti-malarial drugs received from UNICEF continued in Pemba.

16. Investigations by two Entomologists attached to the Malaria Eradication Project were continued during the year into the problem of salt water breeding *a.gambiae*. A laboratory was established in Pemba and work was begun in the field to investigate the feeding habits and role as carriers of malaria of this particular strain of anopheles.

17. In October, Dr. N. G. Gratz, World Health Organisation Entomologist, came to Zanzibar as a Consultant in order to study the reported increase of bed bugs and other insects after the anti-malarial spraying campaign. Since the Stone Town area of Zanzibar was the only unsprayed area available for use as a control, it was not found possible to make accurate observations of the relative density of bed bugs before and after spraying. Both in the unsprayed Stone Town and sprayed Ngambo and rural areas, the infestation of bed bugs varied widely from house to house, and although none of the infestations seen in the Stone Town were as dense as some of those in rural areas they appeared to be quite as frequently encountered. As regards the increase in chicken mites, Dr. Gratz concluded that any increase must have been of a temporary nature and most likely due to some disturbance of their environment by spraying, and no permanent increase of invasion of homes had resulted from the operation. As regards the fly population, in the short time available for the investigation, and lacking a satisfactory control area, Dr. Gratz was again unable to determine whether or not there had been any change in the biometrics of the two species mainly concerned following the anti-malaria dieldrin sprayings. At the same time resistance tests were made on house flies, *c.putoria* and bed bugs from Stone Town, and on house flies and bed bugs from several villages in the rural parts of the island. Results indicated a high degree of dieldrin resistance among house flies taken in the Zanzibar Municipal Market, although there was a fair degree of susceptibility to D.D.T. Bed bugs from the unsprayed Stone Town were fairly susceptible to both dieldrin and

D.D.T. *C. Putoria* were found resistant to dieldrin and very susceptible to D.D.T. In the rural areas house flies were found to be less resistant to dieldrin, but the bed bugs were everywhere much more resistant to dieldrin. Both bed bugs and house flies in the rural areas were reasonably susceptible to D.D.T.

18. In October, the World Health Organisation Tuberculosis survey team arrived in Zanzibar, consisting of a Project Leader, Statistician, Radiographer, Laboratory Technologist, and two Nursing Sisters. By random selection five areas were chosen in Zanzibar island, and four in Pemba, in each of which samples of 500 persons were examined. By the end of the year the work in Zanzibar island was nearly completed. In one area, namely Tumbatu island, radiological tests could not be carried out because of the difficulty of transporting and landing the X-Ray machine there. Other groups examined were a section of the high density population areas of Zanzibar town, two rural areas, one in the centre of the island and the other on the East Coast, and lastly part of the Stone Town residential area. Preliminary results, based on sputa only, indicated a fairly high percentage of positives in the concentrated residential areas in Zanzibar town and Kichangani village on Tumbatu island. In the rural areas few positive cases were found immediately and indications are that the exposure to infection is low. An interesting point regarding the population structure emerged from the surveys in Zanzibar island which showed that the relative percentage of children below the age of ten is considerably lower in Zanzibar than in the mainland territories.

19. In addition to the Anti-malarial and Tuberculosis Survey Projects, the World Health Organisation training of Rural Health Assistants continued under the Health Tutor attached to the project. The first lot of trainees were posted during the year to rural health centres, and similar units and in many cases have shown themselves able to carry out the public health and curative side of the work in the rural areas in the manner expected of them. The second lot of trainees were enrolled during 1959, and will complete their training by the middle of 1960. From both years the ten best will be chosen to go on for a further year's training with a view to being appointed Health Inspectors. This will still be under the World Health Organisation Health Tutor.

20. Towards the end of the year discussions were held regarding the possibility of the World Health Organisation appointing a Midwife Tutor to begin the training of District Midwives. As a result of talks it appeared that it was unlikely that one would be forthcoming before 1962.

21. The 1959 clove crop was above average. Special measures were taken to advise the growers and crop owners of the necessity for limiting picking in order to reduce stocks and thus regain a firm trading position for the Protectorate. Total arrivals for the first six months of the 1959/60 season, from July to December inclusive, amounted to 11,062 tons or 707,998 frasilas of which the Clove Growers Association purchased 7,371 tons. No special arrangements were made for transporting pickers from Zanzibar to Pemba to deal with the crop but a fair number of people crossed by dhow from Tanga to Pemba. The supply of pickers was generally adequate, though picking rates were not attractive in comparison with those paid in recent years.

22. The weather during the first quarter of 1959 was very much what is expected of a dry season in Zanzibar—rainfall was light, temperatures rose, and a progressive desiccation of the countryside occurred. The main rains were lighter and of shorter duration than usual, beginning at the end of the first week in April, they came to an end during the second week in May.

Fortunately substantial showers occurred during June and continued into July. Thereafter the weather gradually became drier with September and October being dry months. The short rains broke in mid-November with heavy showers, though of short duration, in all areas. Dry weather again set in from the second week in December and the year closed with hot dry weather and strong winds. Rainfall for the year was below average in all areas, the greatest shortfall being in the southern part of Zanzibar island.

23. The epidemic of infective hepatitis mentioned in 1958 continued into the new year. Although relatively few cases were notified it is thought that considerable numbers occurred during the year throughout both islands. During 1959 also mild epidemics of chicken pox and measles were reported from both Zanzibar and Pemba. At the same time notifications of typhoid fever and poliomyelitis showed some increase over previous years.

24. The Zanzibar branch of the British Medical Association was active during the year, and meetings were arranged to which visitors to the Protectorate were invited. Clinical meetings within the Department were also continued. These were attended by local practitioners from Zanzibar town.

25. The branch of the St. John Ambulance Association continued to be active and the work is slowly extending in Zanzibar in close co-operation with the British Red Cross Society.

26. The first five year development plan ended in December, 1959, and a new programme for five years beginning in 1960 was adopted. Among the items in this new programme are a Nurses Hostel, Childrens' Ward, and Mortuary, to be built at the Hassanali Karimjee Jivanjee Hospital in Zanzibar. Also included are the re-equipping of Pemba hospitals following the installation of electricity in the island, the rebuilding of certain rural treatment centres, the housing of District Midwives, and construction of a new rural treatment centre at Kojani island, Pemba. The two final major projects in the 1959 programme, namely the out-patients blocks at the Hassanali Karimjee Jivanjee Hospital, Zanzibar, and the Zenubbai Karimjee Hospital, Pemba, were completed and occupied by the end of the year. The womens' ward, operating theatre, and tuberculosis ward at the Zenubbai Karimjee Hospital, Wete, had unfortunately to be deferred and replanned owing to the fact that the new out-patients department there had absorbed most of the available money. Mention must be made of the installation of electricity in the island of Pemba during 1959. The hospitals at Wete, Chake Chake and Mkoani, have all been wired and lighting installed, and provision, as mentioned above, has been made for the purchase of electrical equipment for these three hospitals in 1960.

3. Staff

27. The staff of the Department as at 31st December, 1959, was as follows:—

<i>Designation</i>	<i>Establishment</i>	<i>Actual</i>	<i>Remarks</i>
Director of Medical Services	1	1	
Assistant Director of Medical Services	1	1	
Medical Superintendent	1	1	
Specialist Officers	2	2	
Pathologist	1	1	
Medical Officers	18	16	2 vacant.
Dental Surgeons	3	3	
Pharmacist/Storekeeper	1	1	

Office Superintendent	..	..	..	..	1	..	1	
Chief Health Inspector	..	..	..	..	1	..	1	
Office Assistants	..	..	..	..	2	..	2	
Storekeeper	..	..	..	..	1	..	1	
Senior Health Inspectors	..	..	..	..	6	..	6	
Laboratory Technologist	..	..	..	..	1	..	1	
Assistant Laboratory Technologist	..	..	..	..	1	..	1	
Senior Dispensers	..	..	..	..	2	..	2	
Radiographer	..	..	..	..	1	..	1	
Matron	..	..	..	..	1	..	1	
Senior Nursing Sister	..	..	..	..	1	..	1	
Sister Tutor	..	..	..	..	1	..	1	
Superintendent Mental Hospital	..	..	..	..	1	..	1	
Housekeeper	..	..	..	..	1	..	1	
Nursing Sisters	..	..	..	..	13	..	12	1 vacant.
Senior Nursing and Hospital Assistants	..	..	..	..	165	..	133	32 vacant.
Health Inspectors	..	..	..	..	30	..	11	11 in abeyance.
Laboratory Assistants	..	..	..	..	10	..	10	
Dispensers	..	..	..	..	5	..	5	
Clerks and Stenographers	..	..	..	..	25	..	23	2 vacant.
Dental Assistants	..	..	..	..	1	..	1	
X-Ray Assistants	..	..	..	..	1	..	1	
Artizans	..	..	..	..	3	..	8	
Probationers in training	..	..	..	..	98	..	98	
Miscellaneous and subordinate	..	..	..	..	435	..	405	

28. The staffing position was again well maintained. In August, the post of Medical Superintendent, Hassanali Karimjee Jivanjee Hospital was filled by the transfer of Dr. I. E. Dawson from Kenya. Also the post of Surgical Specialist was filled by the transfer of Mr. D. W. H. Hurley from Kenya, in November, 1959.

29. In October, Dr. I. W. MacKichan from Tanganyika, was appointed Director of Medical Services in succession to Dr. D. A. Baird, O.B.E., who left on leave prior to transfer to Sarawak.

30. Doctors H. A. Shah and D. T. Goradia joined the service as Medical Officers, and Doctors A. J. Cunningham and I. P. MacKenzie resigned during the year.

31. Mr. M. A. W. Roberts, Temporary Surgical Specialist, left in October, on leave, prior to completion of contract.

32. The post of Assistant Matron was filled by the transfer of Miss J. S. Murphy from Uganda.

33. Two Nursing Sisters, Miss M. D. Wilson, and Miss H. M. Dick joined the service on first appointment.

34. Dr. M. H. Metha, Temporary Medical Officer, resigned his post to proceed to the United Kingdom for a Post Graduate Course.

4. Visitors

35. The following visitors from overseas were shown various aspects of the Department's work during the year:—

Professor J. MacMichael	..	..	Post Graduate School of Medicine, London.
Professor H. J. Seddon	..	..	Consultant Orthopaedic Surgeon Nuffield Panel.
Professor E. W. Woodruff	..	..	Wellcome Professor of Clinical Tropical Medicine.
Sir Gordon Covell	..	..	Adviser of Malaria to the Ministry of Health, United Kingdom.
Dr. R. Lewthwaite	..	..	Director of Colonial Medical Research, Colonial Office.
Dr. H. Goodman	..	..	United States of America.

Mr. Orchuela	Adviser on Regional Environmental Hygiene to World Health Organisation.
Dr. K. A. T Martin	East Africa Representative of World Health Organisation.
Dr. Botha de Meillon, D.S.C., F.R.E.S. ..	World Health Organisation Entomologist.
Dr. R. N. Heisch	Specialist Entomologist and Parasitologist, Nairobi.
Mr. M. de N. Ensor	Secretary of the Foundation for Mutual Assistance in Africa South of the Sahara.
Dr. Jacques Saugrain	Head of Anti Malaria Services in French Equatorial Africa.
Dr. Bagster Wilson	Director East Africa Institute of Malaria and Vector-borne diseases, Amani.
Dr. Gillies	East Africa Institute of Malaria and Vector-borne diseases.
Mr. F. D. Webber, C.M.G., M.C., T.D. ..	Head of East Africa Department at the Colonial Office.
Lieut. Thornton & Lieut. Wood ..	U.S.S. "Valcour".
Dr. Kjolbye	World Health Organisation Tuberculosis Survey Adviser.
Dr. Dowling	Malaria Adviser, World Health Organisation.
Dr. N. Gratz	World Health Organisation Entomologist.
Professor A. W. Williams	Makerere College.
Dr. Pepys & Dr. Mitchison	Tuberculosis Research Unit, Medical Research Council, London.
Dr. Philip Hugh-Jones	Physician, Hammersmith Hospital, London.
Dr. O. J. S. MacDonald	Assistant Director of the Ross Institute.
Dr. Z. J. Bruce-Chwatt	Chief of Planning Section Malaria Eradication Division, World Health Organisation, Geneva.
Mr. W. F. Vetter	World Health Organisation Consultant in Hospital Construction.
Miss Louise M. Bell	World Health Organisation Nursing Adviser.
Dr. D. L. Davies	Physiatrist, Dean of the Institute of Psychiatry, University of London.
Dr. Phillip Hutton	Medical Specialist, Mulago Hospital.

5. Training

(a) OVERSEAS TRAINING.

36. The following table shows the number of men and women from Zanzibar who were taking medical and allied courses in the United Kingdom on the 31st December, 1959:—

	Government	Private	Total
Medicine	4	23	27
Nursing	4	12	16
Dentistry	1	2	3
Dental Mechanic	1	—	1
Pharmacy	1	2	3
Laboratory Technology	1	—	1
Physiotherapy	—	1	1
Public Health and Sanitation	—	—	—
TOTAL ..	<u>12</u>	<u>40</u>	<u>52</u>

37. In addition one Government sponsored student was studying medicine at Makerere College, Uganda, and in India and Pakistan seven Government sponsored and two private students were also studying to become doctors.

38. During 1959, a locally trained male nurse was sent to London to attend a six months' course of training for overseas Ward Sisters, and a Medical Officer attended a six months' course of practical anaesthesia at the Royal Berkshire Hospital, Reading.

39. A locally trained midwife went to Dar-es-Salaam for six months, refresher course at Muhumbili Maternity Centre, and another locally trained nurse was sent to the United Kingdom for training in mental nursing.

(b) LOCAL TRAINING.

40. The training of Nurses and Hospital Assistants continued during the year at the Training School attached to the Hassanali Karimjee Jivanjee Hospital, under Miss Jones, the Sister Tutor, and Mr. Abdul Kadir Ali, who recently returned from the Ward Sister's Course in England. There was a great improvement in the standards achieved by the trainees.

41. During the year there were 47 students in training, made up as follows:

First year	..	..	21
Second year	..	..	15
Third year	..	..	11
			<hr/>
TOTAL	..		<u>47</u>

Eleven Nurses sat the final examination in November and of these six passed.

42. Revision courses and promotion examinations for Hospital Assistants and Nurses were held as usual. The policy of encouraging the training of more girls as nurses was continued successfully. At the moment, however, the majority of candidates are of Standard VIII only, and their lack of knowledge of English tends to hold back their training.

43. The training of Rural Health Assistants, which began in 1958, was continued with an intake of fourteen students. The class was in charge of the World Health Organisation Tutor, and was supplied by UNICEF with certain items of equipment. The first output of students have been posted to Rural Health Units, and up to date have given satisfaction. It is hoped to begin the training of the best ten out of the two classes as Health Inspectors under the World Health Organisation Tutor later in 1960. The in-service training of Laboratory Assistants under the Pathologist and Laboratory Technologist was continued at the Hassanali Karimjee Jivanjee Hospital. Three completed the third and final year, one his second year, and another the first year of training.

44. The in-service training course for three Dispensers was continued during the year under the direction of the Pharmacist/Storekeeper. All students made good progress.

45. The training of entomological assistants by World Health Organisation personally attached to the Malaria Eradication Project was continued successfully during the year.

6. Hospitals and Rural Treatment Centres

(a) GENERAL HOSPITALS.

46. The distribution of beds in the various hospitals throughout the Protectorate as at 31st December, 1959, was as follows:

Hassanali Karimjee Jivanjee Hospital	..	..	..	235
Zenubbai Karimjee Hospital, Dole, Zanzibar	..	..	..	40
Holmwood Mental Hospital, Zanzibar	..	..	..	185
Zenubbai Karimjee Hospital, Wete, Pemba	..	..	..	78
Chake Chake Hospital, Pemba	..	..	..	55
Mkoani Hospital, Pemba	..	..	..	23
Isolation Hospital, Changuu Island, Zanzibar	..	..	..	30

Prison Hospital, Zanzibar Town	..	..	..	..	17
Walezo Leprosarium, Zanzibar	..	..	..	..	100
Makondeni Leprosarium, Pemba	..	..	..	..	100
Salem Treatment Centre, Zanzibar	..	..	..	..	8
Mkokotoni Treatment Centre, Zanzibar	..	..	..	..	12
Makunduchi Maternity Centre, Zanzibar	..	..	..	..	6
TOTAL					<u>889</u>

Out of this total there are 356 general medical and surgical beds, 47 maternity beds, and 91 beds for the treatment of tuberculosis throughout the Protectorate.

47. There is approximately one general medical and surgical bed for every 840 of the population, one mental hospital bed for every 1,617 of the population, and one tuberculosis bed for every 3,287.

(b) RURAL TREATMENT CENTRES.

48. The thirteen treatment centres in Zanzibar and nine in Pemba were maintained during the year. By means of these, Zanzibar island is provided with a comprehensive medical service and only very few places such as Nungwi in the North are very far from medical aid. The majority of the centres are connected by telephone to the Central Hospital in Zanzibar through the local District Office. In Pemba the lack of good roads makes the access to some of the Treatment Centres more difficult.

49. During 1959 full time District Medical Officers were posted both to Zanzibar and Pemba, and as a result supervision has been considerably improved, and most Centres situated on good roads are visited at least twice a month.

50. In Zanzibar island the Department maintains other treatment centres in Ngambo Area of Zanzibar Town, at the Police Barracks, Ziwani, and at the Central Prison, where there is also a small hospital of seventeen beds.

51. As mentioned above, the first class of Rural Health Assistants completed their training during the year and were posted as far as possible to Rural Health Units. On the whole their work has been successful, but will require close supervision for some time to come to see that preventive aspect of their duties is not neglected by preoccupation with curative work. At centres where it was found possible to post two Assistants so that they could take turns in carrying out public health work and clinical medicine, it was noticeable that their enthusiasm was well maintained.

52. The Departmental News Sheet was continued during the year and helped to disseminate information regarding departmental activities and health matters in the rural areas.

53. As in previous years, health talks were given over the wireless with the assistance of the Information Section, and use was made of various publications for purposes of health propaganda.

54. Work was begun during the year on the replacement of two Rural Health Centres in Pemba at Fufuni and Kengeja. Work on the latter one was nearly completed by the end of the year.

55. A Handbook of Diagnosis and Treatment was published during the year and issued to all Rural Health Centres. This is written as a guide to Rural Health Workers and used as a basis of instruction during the training course.

6. Hospitals and Rural Treatment Centres

56. (c) GENERAL HOSPITAL AND TREATMENT CENTRE RETURNS.

<i>Hospitals</i>		<i>Ini Patients</i>				
		1955	1956	1957	1958	1959
Zanzibar Town	..	2,890	3,070	5,082	4,466	5,923
Wete	.. ..	1,262	1,617	1,678	1,708	1,669
Chake Chake	..	1,453	1,300	1,160	1,100	1,212
Mkoani	.. ..	120	1,197	408	373	384
Selem	.. ..	130	117	117	87	68
Mkokotoni	.. ..	134	59	21	—	—
TOTAL	..	<u>5,996</u>	<u>7,360</u>	<u>8,466</u>	<u>7,734</u>	<u>9,256</u>

<i>Hospitals</i>		<i>Out-Patients</i>				
		1955	1956	1957	1958	1959
Zanzibar Town	..	48,260	61,207	65,266	65,712	94,538
Wete	.. ..	15,268	22,662	27,358	25,436	32,570
Chake Chake	..	18,267	19,808	21,629	21,081	24,870
Mkoani	.. ..	5,007	6,642	10,515	8,602	10,335
Selem	.. ..	4,290	4,562	3,934	5,301	6,305
Mkokotoni	.. ..	2,827	5,032	5,503	6,665	9,572
TOTAL	..	<u>93,919</u>	<u>119,913</u>	<u>134,205</u>	<u>132,797</u>	<u>178,190</u>

57. There was a considerable increase in numbers as compared with the previous year. This is partly accounted for by the incidence of certain mild infectious diseases such as measles and chicken pox in epidemic form.

58. The total number of new cases treated at Rural Treatment Centres was 175,517 compared with 104,221 in 1958. Study of the details of out-patient returns, which appear in Appendix II of this Report show the following to be the commonest diseases or disease groups treated during the year; figures for 1958 are included as a comparison:—

	1959	1958
Respiratory diseases, excluding Tuberculosis	41,640	29,320
Affections of the digestive system	33,400	14,337
Malaria	12,609	16,478
Boils, infections of the skin, and subcutaneous tissue	12,463	14,327
Pyrexia of unknown origin	11,546	12,327
Tropical ulcers	9,914	15,001

59. The great increase in the incidence of digestive disease can possibly be attributed to the plague of flies which occurred in both islands during 1959. On the other hand cases of malaria continue to decrease each year, although it is perhaps too early for the effects of the malaria eradication scheme to be felt.

60. In the previous year's Report an apparent marked decrease in the incidence of anaemia was noted. In 1959, on the contrary there was an enormous increase in the number of cases without any corresponding fall in the returns of hookworm. It is doubtful whether the numbers represent the true position as regards anaemia, since diagnosis, particularly in the Rural Health Centres, is not generally supported by laboratory findings.

61. In hospitals the pattern of disease remains unchanged from previous years. Inguinal Hernia still remains a great problem on the surgical side, and it appears that it will be some time before the back-log of cases awaiting operation can be dealt with.

68. In November, the Hospital was visited by Dr. D. L. Davies from Maudsley Hospital, London, who commented very favourably on the facilities and general atmosphere of the unit.

69. As in previous years recreational facilities for the patients were continued with visits by the mobile cinema and band concerts.

(b) INFECTIOUS DISEASES HOSPITALS.

70. It was not found necessary to make use of either of the infectious diseases hospitals on Changuu island, or the infectious diseases camp near the town of Wete in Pemba.

(c) WALEZO AND MAKONDENI LEPROSARIA.

71. Treatment of leprosy is carried out in two small institutions, one in Zanzibar, maintained by Government through the Health Department and staffed by the local Roman Catholic Mission, and the other in Pemba which is a normal Government institution. Both units are under the care of a Government Medical Officer, and each provides accommodation for approximately 100 patients.

72. During the year 12 new patients were admitted to Walezo, and there was one discharge and one death. The number of patients remaining in the institution on the 31st December, 1959, was 33.

73. At Makondeni, Pemba, 33 patients were admitted during 1959, 24 were discharged and one died, and the number remaining under treatment on the 31st December, 1959, was 67.

74. The total number of patients under treatment in the Protectorate at the end of the year was 100 compared with 83 at the end of 1958.

(d) WALEZO HOME FOR THE AGED AND INDIGENT.

75. This institution is maintained by the Government but is staffed and administered by the local Roman Catholic Mission. It is visited once a week by the District Medical Officer, Zanzibar, who is in general charge.

76. On the 31st December, 1958, there were 159 inmates in the home. 99 were admitted during the year, 29 were discharged, and 69 died, and there were 160 remaining on the 31st December, 1959.

77. As mentioned in previous years, the high figures of deaths is due to the fact that the majority of the inmates are old people in need of care in their later years of life.

78. The Welfare Section of the Provincial Administration is actively interested in the home. Aged and destitute cases needing care and attention are first referred to the Welfare Officer who arranges their admission after investigating their circumstances. Some of those who are incapacitated by sickness are allowed to go home when they are cured, and in many instances have to be repatriated to their homes on the mainland. In addition the Welfare Officer arranges occupational therapy for the inmates and assists them in their personal problems. During 1959 two of them were set up in small grocery shops near to the entrance to the institution. The Information Officer continued to provide regular cinema shows.

8. Specialised Services

(a) MATERNITY SERVICES.

79. During 1959 the number of women attending Hospitals for their confinement increased considerably and the ante-natal clinic showed that the number of new cases attending had recovered from the comparative slump in 1958.

80. The total number of maternity beds at present available in the Protectorate is shown below, together with the number of confinements conducted in the various units:—

<i>Hospital or Centre</i>	<i>Beds</i>	<i>Confinements</i>
Hassanali Karimjee Jivanjee Hospital	20 ..	934
Zenubbai Karimjee Hospital, Pemba	10 ..	269
Chake Chake Hospital, Pemba	6 ..	182
Mkoani Maternity Centre, Pemba	6 ..	110
Makunduchi Maternity Centre	6 ..	183
Mwembeladu Maternity Home, Zanzibar ..	14 ..	854
TOTAL ..	<u>62</u>	<u>2,532</u>

The total number of confinements in 1959 shows a considerable increase compared with last year's total of 1,836. In addition to these, 473 cases were delivered at home in Zanzibar town by District Midwives attached to the Mwembeladu Maternity Home.

81. Ante-natal clinics are conducted weekly at all the above-named centres. In 1959, the total of 4,668 new cases attended compared with 3,651 in 1958.

82. The Zanzibar Maternity Association continued to operate the Mwembeladu Maternity Home. Normal cases are delivered in the Home, the majority of the women coming in from rural areas. In addition three District Midwives from Mwembeladu conduct a domiciliary midwifery service in Zanzibar. Abnormal cases are referred to the appropriate hospital.

83. During the year the number of confinements in the Home increased by over 200 putting a great strain upon both the resources of the home and the staff employed. The home is financed from charitable sources assisted by a small grant from Government, and contributions from mothers. The increased amount of work and the need to pay the staff adequate salaries has meant that in the past year the expenses have outrun the income and has necessitated the use of part of the small capital available to the Association. It is hoped that in 1960 contributions will be increased and the Home will be put on a sound financial basis.

84. An analysis of the cases dealt with in the maternity unit of the Hassanali Karimjee Jivanjee Hospital, gives the following figures.

	1958	1959
Primipara	141 ..	264
Multipara	508 ..	665
Abnormal Confinements	94 ..	101
Premature infants born	118 ..	115
Stillbirths	23 ..	17
Infants deaths (including premature births) ..	26 ..	45
Maternal deaths	6 ..	8

85. The most notable increase in abnormal midwifery has been in the admission and treatment of pre-eclampsia, eclampsia and retained placenta. The majority of cases with the two latter conditions were emergency admissions having no record of any pre-natal care. This also was the case in six out of the eight maternal deaths during the course of the year.

86. Neo-natal deaths decreased to less than half, but there was a considerable increase in the rate of still-births during the year.

(b) SURGICAL SERVICES.

87. While Medical Officers in charge of hospitals are required to deal with surgical emergencies in the absence of a surgical specialist and to undertake simple routine surgical work, Government maintains a Specialist Surgical Officer on the establishment of the Hassanali Karimjee Jivanjee Hospital who is responsible for the surgical unit of approximately 90 beds. All surgical work of a specialist nature is referred to him from other hospitals and periodically he visits Pemba where he sees surgical patients in consultation with the Medical Officers at Wete, and Chake Chake. In the Hassanali Karimjee Jivanjee Hospital he is assisted by a general duty Medical Officer and a part time anaesthetist.

88. At the Hassanali Karimjee Jivanjee Hospital the work of the surgical unit was again affected by changes of senior personnel. The work done during the year compared with 1958 is shown by the following figures:

				1959		1958
Zanzibar:	Major operations	..	..	704	..	868
	Minor	..	..	1,533	..	1,889
Wete:	Major	..	..	376	..	395
	Minor	..	..	532	..	625
Chake Chake:	Major	..	..	43	..	126
	Minor	..	..	355	..	401
Mkoani:	Major	..	..	—	..	—
	Minor	..	..	68	..	99
TOTAL				3,611	..	4,403

89. From Zanzibar genito-urinary surgery and herniotomy ranked high, with traumatic orthopaedic surgery quite common. There still remains a large waiting list of hernias for repair and with such immense source of supply strangulations were, as usual, quite common occurrences.

90. In the Zenubbai Karimjee Hospital, Pemba, 35 cases of fractured spine due to falls while picking cloves and coconuts were reported. These fractures throw a great strain on the nursing side, but were successfully treated in the majority of cases.

(c) LABORATORY SERVICES.

91. During the last week of the year the Pathological Section was moved from the old building to new accommodation in the recently completed wing of the Hassanali Karimjee Jivanjee Hospital which houses the Out-patients, Dental, and Pathology Sections. The post-mortem room still remains in the Medical Headquarters building, which leads to a certain amount of inconvenience, but funds are now available, and it is hoped that work will begin on the construction of a new unit in 1961.

92. Three learner laboratory assistants completed the third and final year of training, one his second year, and another his first year. All made satisfactory progress in spite of the fact that training was to some extent curtailed during the absence on leave of the Pathologist.

93. The following number of investigations were carried out in 1959:

Nature of Investigation	1959	1958
Parasitological	15,208	(17,826)
Serological	1,769	(1,676)
Bacteriological	9,574	(8,254)
Biochemistry	5,355	(5,555)
Haematology	7,728	(5,496)
Histology	89	(113)
Postmortems	46	(47)
Medicolegal	86	(113)
Miscellaneous	—	(7)
TOTAL ..	39,855	(39,087)

94. During the year a panel of voluntary blood donors was initiated for the Zanzibar Branch of the British Red Cross Society. By the end of the year a total of 42 persons of all races had been enrolled.

95. Blood grouping and matching for transfusions increased considerably during the year, with 525 ABO groupings compared with 156 in 1958. This work now occupies one technician and entails frequent calls on the laboratory at night and on holidays.

96. Owing to the Pathologist's absence on leave, work of a research nature was limited to (1) collection of additional information in regard to anaemias and schistosomiasis, and (2) the collection of results from serological investigations (Salmonella, Brucella, and Weil-felix) in pyrexial patients, in controls and (for Brucella) in animals.

(d) OPHTHALMIC SERVICES.

97. Eye operations carried out during 1959 were 102 in Zanzibar and 96 in Pemba. The majority consisted of senile cataracts, tarsectomy for entropion, and enucleations for painful blind eyes. 5,948 new cases attended the out-patient department in Zanzibar. Most of these were for inflammatory conditions such as conjunctivitis, iritis and corneal ulcers.

98. The Refraction Clinic at the Hassanali Karimjee Jivanjee Hospital was held regularly, and 335 refractions were done and prescriptions given for glasses. In addition 299 candidates for Government employment were referred to the Eye Clinic for special ophthalmic examination.

(e) X-RAY SERVICES.

99. X-ray examinations in the Hassanali Karimjee Jivanjee Hospital continued to increase mainly in respect of chest X-rays, including those taken at the Chest Clinic. The total number taken during 1959 was 6,993 against 5,200 in 1958. No major difficulties were encountered in the working of the machines during the year.

(f) TUBERCULOSIS SERVICES.

100. The development of the tuberculosis services based on the Chest Clinic at the Hassanali Karimjee Jivanjee Hospital, under the direction of a Medical Officer who has received special training in tuberculosis, continued successfully during the year.

101. In view of the increasing importance of this disease to Zanzibar, it is thought suitable to publish the returns of the Chest Clinic, Zanzibar, for 1959 in full. The establishment of this unit has placed the diagnosis and treatment of tuberculosis on a firm footing and the results achieved in 1959, which are given below, are of great interest. During the past year for the first time sputum culture and sensitivity tests were made use of. This can be regarded as a most important step towards the ideal method of treating the disease. Patients on the whole now report much earlier than they used to, and the evidence of residual lung damage has become less common. The general picture as regards Zanzibar is of course somewhat distorted by immigrant patients from Tanganyika with a somewhat different type of the disease.

102. As can be expected the biggest problem at present is that of defaulting patients who are put on out-patient treatment. Such cases almost always relapse with a strain which will not respond to the three standard drugs, and go progressively downhill, or end up as respiratory cripples with persistent positive sputa.

103. It is also clear that more than half of the cases diagnosed failed to produce their contacts. It is hoped that in the future a more careful follow up of cases will be made possible when staff become available.

The Chest Clinic, Zanzibar.

104. The total number of cases on the Chest Clinic Register at the end of 1959 was 1,395. Number of cases on active treatment:—

A. *In-Patients:*

(i) Hassanali Karimjee Jivanjee Hospital	..	Male	..	28
	..	Females	..	14
		TOTAL	..	42
(ii) Zenubbai Karimjee Hospital, Dole	..	..	..	39
(iii) Walezo (Males)	..	..	..	16
(iv) Mental Hospital	..	..	..	5
(v) Prisons	..	..	..	3
		TOTAL	..	105

B. *Out-Patients:*

105. Number of cases attending the Chest Clinic for supply of drugs	..	..	..	..	..	386
Number of cases referred to Rural Health Centres	..					164
		TOTAL	..			550

C. Transfers to Pemba, Mainland, India	..	..	..	..	205
D. Arrested cases	..	..	..	..	225
E. Percentage Cure rate	..	..	..	..	16.11%
F. New cases diagnosed in 1959	..	..	..	Males	219
				Females	96
				TOTAL	315

G. Average duration of symptoms before patients reported to hospital	..	..	..	Males	4.7
				Females	3.58

H. The distribution of the disease according to Race, Age, Sex, is as follows:—

Age	Africans		Arabs		Asians	
	M.	F.	M.	F.	M.	F.
0-5 ..	3	6	3	3	1	—
5-15 ..	8	3	1	—	—	—
16-25 ..	30	20	8	5	—	2
25-40 ..	73	33	7	1	3	1
41-60 ..	48	13	6	1	4	—
60+ ..	15	13	4	—	—	—
	177	88	29	10	8	3

(I) *Type of Disease Seen.*

The majority of cases treated showed acute bilateral disease with or without cavitation. The incidence of malignant manifestations of the disease was low. A few primaries were detected chiefly among the contacts. Some cases of cervical adenitis of tuberculous origin were also treated. Eight males and four females cases had diabetes. Four T.B. emphysemas were treated during the year. T.B. laryngitis, haemotysis, effusions, purulent or otherwise, and spontenaous pneumothorax were among complications seen.

(J) *Length of Stay in Hospital.*

Total admissions: 364.	<i>Males</i>	<i>Females</i>
New cases	187	76
Re-admissions	80	21
Average period of Hospitalization ..	Males 11.36 weeks. Females 13 weeks.	

Comparative monthly average of new cases seen:

	1956	1957	1958	1959
Monthly average	20.7	19	27	26

(K) *Deaths.*

				<i>Males</i>	<i>Females</i>
Died in Hospital. New cases	Re-admissions	..		9	3
Re-admissions .. .. .	..	..	..	7	—
Reported dead by relatives ..	..	..	..	12	3
Died in Walezo Home .. .. .	..	..	..	6	—
				—	—
			TOTAL ..	34	6
			GRAND TOTAL ..	40	

(L) *Contacts.*

Total number of contacts seen during the year	762
Total number of contacts found to be tuberculin positive ..	527
Total number of contacts found to be tuberculin negative ..	218
Contacts skin tested but not reported for reading	17
Number of contacts tuberculin negative who were B.C.G. vaccinated	201

(M) *Analysis of cases skin tested.*

Age	<i>Males</i>		<i>Females</i>		<i>Total</i>	
	+ve	—ve	+ve	—ve	+ve	—ve
0-5	17	41	35	37	52	78
5-15	59	34	69	48	128	82
16-25	33	10	70	21	103	31
26-40	59	5	114	15	173	20
41-60	23	1	33	6	61	7
60+	5	*	5	—	10	—
	196	91	327	127	527	218

The result of tuberculin conversion after B.C.G. was 100 per cent.

(N) *Treatment.*

New Cases.—All new cases under 50 received Strept. 1 gm. INAH 300 daily for a minimum of 12 weeks. Elderly patients over 50 were placed on PASINAH to avoid eighth nerve symptoms. Early during the year "Rotation Treatment" was tried in some of the cases; it is too early to assess the results.

(O) *Re-Admissions.*

All these, when deterioration was the main indication for admissions, received Strept 1 gm. INAH 300 mg. PAS 20 gm. for six-twelve weeks. In these cases, it was assumed that the sensitivity of the organism to one or two of the three standard drugs was doubtful or partial and hence the benefit of the doubt was given to the patient.

(P) *Culture Sensitivity Tests.*

Total number reported	29
Cases showing resistance to INAH	5
" " " " PAS	2
" " " " Strept	6
Cases sensitive to all three standard drugs	7
" " to 2 of the " "	4
" " to 1 of the 3 " "	1

Most of these cases were old cases who had had various combinations of the drugs.

(Q) *Allergy to the Three standard Drugs.*

Many of the patients showed a certain amount of gastro-intestinal upset with Pasinah but only eight out of these showed severe symptoms to warrant change of treatment. Definite allergy to PAS was seen in six of the cases. Three cases were allergic to Streptomycin.

(R) *Follow Up.*

The defaulters rate in the 1959 cases is low compared with that in the old cases. A minority of cases assumed that they were cured when they were discharged from hospital. Practically all of these returned later in a moribund condition. The surprise urine tests to detect defaulters in taking PAS revealed that approximately 15-20 per cent of the cases did not take Pasinah regularly.

(S) *Surgical Treatment.*

During 1959 all efforts have been concentrated on chemotherapy. Only a few cases carried forward from previous years have been on P.P. The results have been encouraging, but it is obvious that in a minority of cases supplementation with collapse therapy has its place in the overall treatment of cases, particularly those with large cavities.

(T) *Dole Hospital.*

Cases transferred to Dole during the year were 226. Most of the cases showed no reluctance to accept prolonged treatment in hospital. Two radios have been installed for the entertainment of the patients, and various games were given to the patients to occupy their time. The library is being made use of, and the fortnightly tuition by the schoolmaster is being carried on as usual. Regular visits were made by the Welfare Officer to arrange occupational therapy, financial assistance or repatriations. The first entry into the Commonwealth art competitions, sponsored by the Chest and Heart Association of London, has been extraordinarily successful. Besides the several individual prizes, Zanzibar secured a first place as a country in the competition.

(g) DENTAL SERVICES.

106. In the last quarter of the year, the new dental surgeries built as part of the new Out-patient blocks at the Hassanali Karimjee Jivanjee Hospital, Zanzibar, and the Zenubbai Karimjee Hospital, Wete, were completed and put into operation.

107. The provision of electricity in Pemba was a great asset and has enabled the new surgery in Wete to be fitted out with the latest electrical equipment.

108. Short courses in simple dentistry and extractions, consisting of lectures and practical work were given to fourteen Rural Health Assistants in training.

109. The school dental services were continued, but due to the increasing number of students this becomes a greater strain on the dental section each year.

110. In 1959 49 schools were inspected, 11,257 students were seen of whom 6,265 required dental attention. At the various dental clinics 18,704 attendances were recorded, 18,750 teeth were extracted, 4,031 fillings performed, and 154 scaling operations were undertaken.

(h) AMBULANCE SERVICES.

111. Two ambulances were maintained in Zanzibar and two in Pemba. In Pemba one of the old ones was replaced during the year by a new vehicle. In Zanzibar the number of calls answered was 4,992 entailing a total mileage of 41,054. This means that an average of 14 calls daily with a daily running of just over 112 miles.

(i) SCHOOL MEDICAL SERVICES.

112. The District Medical Officer, Zanzibar, normally examines all new entrants to schools during the year. In 1959 this was not possible due to pressure of work consequent upon the appointment of newly trained Rural Health Assistants to district units, necessitating much closer supervision than previously. Vaccination of all new entrants was however successfully carried out. It is expected that a full examination of all boys and girls joining school in 1959 and 1960 will be carried out early in 1960.

113. In Pemba, medical inspection of school children was carried on throughout the year, being put on a regular schedule with a fixed programme after August. Sixteen schools were fully inspected out of a total of twenty-one, and vaccination carried out of all children who had not yet been done. The most common complaint was haematuria. This was extremely prevalent among boys and rather less so in the girls, and indicates a high endemicity of bilharzia in the island. Enlarged spleen is now becoming rare but anaemias are still rather common, possibly due to hookworm infestation. The general standard of cleanliness has improved each year and scabies is not as common as in the past. Nutrition is reported as being good among school children in contrast to those who for some reason or other are unable to attend school.

(j) STORES' SERVICES.

114. The work of the stores has continued to increase due to the larger attendance at district treatment centres and out-patient departments in Zanzibar and Pemba, and the activities of the World Health Organisation Malaria Eradication Team, and the Tuberculosis Survey Team. Local Purchase Order and Public Works Department requisitions totalled 530, with 504 Crown Agents' invoices for the year. Issue Vouchers passed numbered 2,358, an increase of nearly 500 over 1958.

115. The monthly distribution of drugs and general stores continued to the increased number of nineteen district treatment centres, but transport continues to be a problem, and the amount of stores required by each centre is steadily increasing. It is hoped that early delivery of a vehicle better equipped for this purpose, provision for which was made in the 1960 estimates, will result in economy of time and cost, and generally facilitate this work.

116. The revision of the Departmental Drugs Formulary was completed and copies of the revised and expanded Formulary have now been distributed.

117. The move of the dispensary from the old premises to the new out-patient department was effected without disruption of services in November, and is now coping efficiently with the large out-patient attendance and hospital drug requirements. This has been aided by preparing all compounded mixtures, lotions, liniments, ointments and eye drops in the Medical Stores Dispensary and using the out-patients' dispensary solely for distribution.

118. An in-service training course for three dispensers started early in 1958, continued through 1959 under the Pharmacist/Storekeeper.

119. The enactment of The Pharmacy and Poisons Bill was commenced to bring legislation in the Protectorate into line with that in mainland territories and the United Kingdom.

9. Legislation

120. The following Decree relating to the Health Department was enacted during the year:—

Pharmacy and Poisons Bill, 1959.

10. Communicable diseases

(a) SMALLPOX.

121. No cases of smallpox were reported during the year from either Zanzibar or Pemba. Vaccinations were continued on a large scale throughout both islands, and the following numbers were vaccinated during the year:

Zanzibar town	..	..	16,835
Zanzibar District	..	..	16,640
Pemba	..	..	5,095

As mentioned above all school children are being vaccinated regularly, and in many cases is made a requisite before a child enters school.

(b) YELLOW FEVER.

122. Zanzibar, in common with other East African territories, is by definition a yellow fever receptive area. Valid international certificates of vaccination are no longer required from travellers entering the Protectorate unless they have come from what may, from time to time, be declared an infected area. Persons living in Zanzibar who are likely to undertake international travel are nevertheless advised to provide themselves with an international certificate of vaccination and to keep it valid by having it renewed at six-yearly intervals. It is for this purpose that yellow fever vaccination may be obtained free of charge at the Health Office, Zanzibar, and at the hospitals in Wete and Chake Chake, Pemba, by appointment with the officers in charge. No cases of yellow fever were reported during the year.

(c) PLAGUE.

123. No cases of this disease were reported. As in previous years constant watch is kept on the ports in both islands, and systematic trapping of rats was carried out to detect the appearance of the infection among the rat population. No positive smears were obtained in 1959. Rat trapping was carried out in Pemba, and a total of 1,377 rats were caught.

(d) MALARIA.

124. As mentioned above, the spraying programme in connection with the World Health Organisation assisted Project for the eradication of malaria in the Protectorate was successfully continued during the year. By December, the second cycle of spraying in both Pemba and Zanzibar had been completed. As in previous years co-operation from the general public was excellent, and very few cases of refusal by householders to have their houses sprayed were encountered. In December the team returned from Pemba in order to prepare for the next spraying programme in Zanzibar island to be begun in January, 1960.

125. The survey teams continued to make various malario-metric investigations as a necessary part of the operation. A summary of the results up to date is as follows:

I. INFANT PARASITE SURVEYS

A. SIX MONTHS POST-SPRAYING SURVEY.

125. The malaria parasite survey of infants born in Zanzibar island during the first six months after the area in which they lived had been sprayed, was completed by the middle of the year. The final results are summarised below. This survey was started in November, 1958, a month after the end of the first spraying cycle. It should be noted that four infants in which malaria parasites were found in this survey had all spent some time in an unsprayed part of the island.

<i>Area</i>	<i>Date</i>	<i>Exd.</i>	<i>Neg.</i>	<i>Pos.</i>	<i>Rate</i>
Zanzibar Town.	Nov., 1958	111	107	4	3
Rural Areas.	Jan/April, 1959	182	182	Nil	Nil

B. TWELVE MONTHS POST-SPRAYING SURVEY.

126. This survey was started in June, and is being carried out in all areas of Zanzibar island twelve to thirteen months after the first spraying cycle in each area. Infants under twelve months of age were examined, and divided into two groups—

- (a) Infants reported not to have left the island since birth.
- (b) Infants reported to have journeyed out of the island at some time.

127. The first survey covered the Mudirias of Zanzibar Town, Maghrib, Koani, and Chwaka. The results of this survey showed that out of a total of 875 infants born in Zanzibar after the first spraying cycle, and who had never left the island, only one was found positive. Out of a comparable group of 40 infants reported to have been away from the island at some time, seven were found positive. Later in the year two more Mudirias were examined, that is Mkokotoni and Mangapwani. In this survey seven positives were found among infants who had never left the island, and none among the other group. All these cases were living in and around a small area where it was known that transmission was still going on, possibly due to the fact that the crop huts in this area were omitted from the spraying in the first cycle.

C. BLOOD FILMS FROM THE HASSANALI KARIMJEE JIVANJEE HOSPITAL.

128. In view of the results found in the six months post-spraying survey, it was decided in March, 1959, to start a system of examination of blood films taken from all infants attending as out-patients at the Hassanali Karimjee Jivanjee Hospital. The object of this was to try and discover cases which had, without doubt, been infected with malaria on Zanzibar island, and which the routine surveys might fail to reveal. Four infants were found to be positive for malaria parasites during May, three of whom had at some time visited the African mainland while the fourth had never left Zanzibar. In June, two were found positive who had never at any time left Zanzibar island. It should be noted that the majority of the infants attending the out-patients' clinic live in the town area, a place of low malaria transmission even before the start of the residual spraying. About 20 per cent had, however, been brought into town for treatment from outlying rural areas. In the quarter July/September 18 positives were found, 15 of whom came from outside Zanzibar island, and the remaining three were born in Zanzibar before the spraying. In the last quarter October/December, there were 22 positives, 18 coming from outside Zanzibar island, and the remaining four were born and lived in Zanzibar.

II. SPLEEN RATES

129. A spleen and parasite survey was carried out in October and November, 1959 in certain rural areas in Zanzibar to obtain data comparable with the results of a similar survey in October and November, 1957. In those two years two spraying cycles with Dieldrin have been carried out in Zanzibar island. In 1957 the spleen rate (2-9 years) varied in different villages between 53.4 and 81.4 per cent. In 1959 it was between 28.3 and 50 per cent. In 1957 the average spleen rate in children two to five years was 70.2 and the A.E.S. 1.76 per cent. In 1959 the figures were 27.9 and 1.41 per cent respectively. In 1957 the average spleen rate in children six to nine years old was 68.5 and A.E.S. 1.81 per cent. In 1959 the figures were 45 and 1.58 per cent respectively.

129. Entomological investigations were also carried out during the year by members of the team attached to the project. These included random spray catches, collection of outdoor resting *a.gambiae*, and studies of salt water *a.gambiae*. An important finding was the breeding of *a.gambiae* in salt water on the coast of Pemba, and with the help of a special allocation of funds by the World Health Organisation, two entomologists were engaged on the study of certain aspects of the biology of this form. A comparison of the combined figures from routine and random catches during the period July/September is also of interest. In Zanzibar island four *a.gambiae* and 25 *a.funestus* were found. All dissections were negative. In Pemba the picture was quite different. Only six *a.funestus* were found, but appreciable numbers of *a.gambiae* occurred. Out of 350 females of *a.gambiae* caught in outside resting places during July, 177 were dissected and one was found positive.

130. An important observation was the discovery by random catches of a comparatively large number of *a.gambiae* in crop huts, including at least one infected with sporozoites. These crop huts had not been sprayed previously because at the time of spraying they were vacated and dilapidated. After the above finding all huts were sprayed as soon as possible with Dieldrin, and in future none will be left unsprayed.

131. As well as observations on the Anopheles, the Entomological Section of the project carried out investigations on the resistance of bed bugs to Dieldrin and D.D.T. In connection with the whole project, the Director and staff of the East African Institute of Malaria and Vector borne Diseases in

Tanganyika continued to afford valuable assistance to this Department. During the year the usual larvicidal control measures were maintained in the main townships of Zanzibar to deal with culicine and other mosquitos which still cause considerable nuisance.

132. In Pemba anti-malaria tablets were distributed, and also given to all persons entering the island by dhow, in order to restrict the importation of parasite carriers to the island.

(e) SCHISTOSOMIASIS.

133. This remains one of the biggest problems in the rural areas both of Pemba and Zanzibar islands. The great majority of cases are of *s.haematobium*, but *s.mansoni* also occurs. The out-patients' treatment with nilodin controls the diseases symptomatically, but there is yet little evidence as to the actual numbers cured. Investigations are being carried out at the Hassanali Karimjee Jivanjee Hospital, Zanzibar, into the late effects of this disease, particularly with reference to fibrosis of the bladder and ureteric stenosis. The number of cases compared with the previous year is as follows:—

		1958		1959
In-patients	..	23	..	2
Out-patients	..	2,284	..	3,313

(f) POLIOMYELITIS.

134. The incidence of this disease remains low, although there was a slight increase on previous years, eight cases being notified in Zanzibar island. Protective inoculations carried out amount to 127. This is a better response than last year, but there is still much apathy on the part of the general public, and there is little room for complacency regarding this disease.

(g) YAWS.

135. 7,513 cases of yaws attended for treatment in 1959 compared with 7,536 in the previous year. The fall in the number of cases is not as rapid as had been hoped. In the near future it is hoped to make use of penicillin-aluminium-monostearate in place of procaine-penicillin in the single injection treatment.

(h) VENEREAL DISEASES.

136. Gonorrhoea is still fairly common, but syphilis is now rare. The actual incidence of venereal disease through the Protectorate does not appear to be high. The dosage of penicillin in the one dose treatment of gonorrhoea was increased during the year and seems to be achieving better results.

(i) INFECTIVE HEPATITIS.

137. The epidemic of infective hepatitis which began in the previous year continued in 1959, and spread to both islands. Although only twenty cases were actually notified, many others were seen at Rural Dispensaries and escaped notification, possibly due to the mildness of symptoms.

(j) LEPROSY.

138. The incidence of this appears to be steadily decreasing. Figures of new cases notified in both Zanzibar and Pemba amounted to 44 compared with 55 in 1958. The attendance of patients discharged from Leprosaria to Rural Health Centres for the continuance of their treatment continues to improve. At both Makondeni and Walezo Leprosaria a fair proportion of the cases are burnt out, but being in need of care and attention have to remain as inmates.

(k) TUBERCULOSIS.

139. Reference has already been made to the work of the Tuberculosis Clinic in Zanzibar island, and also to the World Health Organisation Tuberculosis Survey which was begun at the end of 1959. When the results of this survey are known a decision can be made as to the future policy to be adopted in regard to this disease. At present the actual incidence of the disease in the Protectorate as a whole cannot be described with any accuracy. Figures for cases reporting for treatment continued to rise in both islands, but this may possibly be due to the increasing confidence of the general public in the possibility of this disease being cured in a comparatively short time. The number of contacts accepting protective b.c.g. inoculations increases every year. When the results of the survey are known the question of offering this protection to susceptible age groups in certain areas will have to be considered.

(l) ENTERIC.

140. There was an unusually high incidence of enteric fever during the year in Zanzibar. A total of 80 cases for the year were notified. These occurred at the rate of two or three weekly, and never attained epidemic proportions. The distribution included both rural and town area, and made it very difficult to define the method of transmission. It is thought that the plague of flies which occurred during the year might have had some part in spreading the disease.

11. Environmental Sanitation

(a) REFUSE DISPOSAL.

141. The Health Department is still responsible for the disposal of household refuse in the four towns of Zanzibar, Wete, Chake Chake and Mkoani. This includes the suburb of Mazizini four miles from Zanzibar town. It is hoped that in the near future this service will be taken over by the Municipal Council in respect of Zanzibar. The house to house collection is carried out in the Stone Town area of Zanzibar and in Pemba townships, while in the Ngambo area of Zanzibar town collection is made from communal dumps owing to the difficulty of enforcing the legal requirement that each household should provide a dustbin, and also because of problems of road communications in the area. This latter system has long been recognised as unsatisfactory since the refuse is deposited over a wide area, and fly breeding takes place readily because the larvae are able to penetrate the earth below. For this reason it has been decided to build a series of concrete bays consisting of a floor and low walls on three sides to contain the refuse and from which it will be collected more easily. The programme which was begun in 1959, and will be continued in 1960 is for the erection of 40 of these structures.

142. In Zanzibar town refuse is transported to the main dump by two motor trucks and a number of handcarts. Handcarts are necessary for operation in the narrow streets of Stone Town and Ngambo where motor vehicles cannot pass. In Pemba refuse is also transported by handcarts except in Wete where a motor vehicle is also in use. In both islands the refuse is disposed of by controlled tipping, except in the case of offensive matter such as condemned meat and fish, dead animals, etc., which are destroyed in a forced draught incinerator operated by the Public Works Department in Zanzibar, and by an ordinary incinerator in Pemba. In Zanzibar, town 19,016 tons were removed compared with 18,800 in 1958.

143. Reclamation of the creek in Zanzibar provided the main tipping area during 1959, and by the end of the year a point had been reached about 50 yards from Hollis Road.

144. In connection with the refuse collection and disposal, it should be mentioned here that considerable fly menace occurred again in 1959, similar to that in 1958, but of less severity. It was at its worst towards the end of the hot season and persisted for about three months after the onset of the "*masika*" rains. Breeding occurred for the most part in the communal rubbish dumps in Ngambo, and in the numerous pit latrines in that area. The Health Department again took energetic action to combat the fly nuisance. The communal dumps were cleared as thoroughly as possible and sprayed with a large amount of crude oil. This was found to be an effective, though expensive measure against fly larvae, provided that the soil was saturated with oil.

145. Less successful attempts were made to prevent breeding in the pit latrines. Use of a large amount of oil in these was not really effective, though it reduced the breeding. Gammexane and D.D.T. were known to be ineffective, so a solution of diazinon, an organic phosphorous insecticide was tried. This stopped breeding for a time, but after thirty days the effect wore off. It appears that this substance can only be used as a temporary measure in emergency.

146. Action against adult flies was also taken. A number of cage fly traps were used in various public places. In the markets, lengths of rope impregnated with *a.diazinon* bait solution and suspended in the air were found to be extremely effective.

(b) INSPECTION OF REGISTERED PREMISES

147. This important part of the duties of the Department was carried out thoroughly throughout the year in both Zanzibar and Pemba. The standard of premises is still low, but is beginning to improve slowly. In Pemba a strong effort was made to clear the townships of unlicensed eating-houses. There was some opposition but in the end licences were only issued where the owner had made a real effort to improve the premises.

(c) MILK.

148. Proper dairies are almost non-existent and milk is mainly sold direct from the farmer to the consumer. The sampling of milk was carried out in Zanzibar and Pemba. During 1959, 120 samples of milk were taken as the seller handed the milk to the purchaser, and as a result 13 convictions were obtained against persons for the adulteration of milk offered for sale.

(d) FOODSTUFFS.

149. In Zanzibar town meat is inspected by the Veterinary Staff of the Agricultural Department. All other food inspections are carried out by the staff of the Health Department. Food found unfit for human consumption is condemned and destroyed under the supervision of a Health Inspector. Rice, onions, sugar sweepings, maize and wheat flour comprised the bulk of the food condemned.

(e) SEWERAGE AND DRAINAGE.

150. No general water-borne system of sanitation exists anywhere in the Protectorate. In the high density residential areas pit latrines remain almost universal. The Department continually tries to introduce water-borne sanitation in permanent houses. In Zanzibar during 1959, 206 W.C.'s were installed, 46 of them at the direct instance of the Health Department. In Pemba 76 new installations were carried out.

151. Plans for permanent houses in Zanzibar township are not approved unless there is provision for water-borne sanitation. In 1959, 160 such plans were approved.

152. Storm water is carried away mainly by closed drains, and in certain low-lying areas by open cement channels. During heavy rains some areas become flooded and require regular anti-mosquito control. In Chake Chake the position regarding drainage is reported as being unsatisfactory. Drains are used for both foul and storm water, and are frequently blocked by earth falling from the sides causing stagnation and breeding of mosquitos. In rural areas the supply of latrine slabs was continued. Surveys were made of shehias to determine the number of latrines, and the local inhabitants encouraged to dig proper pits. During the year, 150 slabs and 150 bags of cement were supplied.

153. A beginning was made at the end of the year of a new type of water-seal latrine slab, and it is hoped that this will be generally adopted in the Ngambo area, and thus prevent fly-breeding in the pits.

(f) WATER SUPPLIES.

154. Springs and wells are the source of the water supply for the population of both islands. During the heavy rains, swamps form and these are used by many as an added source of supply.

155. Zanzibar town is supplied by two fresh water springs which are fully protected. The supply is for the most part adequate.

156. The purity of the water is regularly checked by bacteriological examination. Chemical treatment of the water is not normally considered necessary, but chlorination was instituted when the springs became flooded during the heavy rains in 1959. This was also continued for some months during the relaying of the mains to Mazizini, while householders drawing water from these mains were advised to boil all drinking water until the work was completed.

157. In Pemba the water supply at Chake Chake is a cause of anxiety due to the fact that the catchment area is in the middle of the town and surrounded by dwelling houses, but constant watch is kept in order to detect pollution as soon as possible.

(g) PORT HEALTH WORK.

158. The main port of the Protectorate is Zanzibar, at which all ships must obtain pratique. Maritime Declarations of Health under the International Sanitary Regulations are demanded from all ocean-going vessels and coastal shipping, and all passengers and crew are required to be in possession of valid International Certificates of Vaccination against smallpox. Under a Government Notice, published in 1953, certain coastal vessels are permitted to proceed direct to the port of Wete in Pemba, and clearance is effected by the Health Authorities there. All other shipping must first receive pratique in Zanzibar.

159. Throughout the year effect was given to the quarantine rule which enables vessels other than those defined as "native craft" to obtain pratique prior to arrival in harbour, thus rendering it unnecessary for the Port Health Authorities to board the vessel. This rule is only applied to those ships which are not primarily passenger-carrying vessels, as it is essential to retain supervision of passengers' health documents.

160. Conditions which must be satisfied are the prior notice of arrival of the ship, together with an assurance in writing that the ship is known to be free from quarantinable diseases, and the furnishing immediately on arrival of a Maritime Declaration of Health. During the year, 150 vessels obtained pratique under this rule.

161. The number of vessels cleared in the port of Zanzibar during 1959 was 716 ships, and 1,888 other craft, including dhows. A total of 27,386 passengers arrived by sea. At the airport situated four miles from Zanzibar town, the examination of health documents is carried out by Immigration Officials on behalf of the Health Department. In 1959, 1,386 aircraft landed, and 18,734 passengers arrived.

(h) HOUSING AND TOWN PLANNING.

162. During the year a detailed planning scheme for the Zanzibar Town Planning Area came into force. This was made under the provisions of the Town and Country Planning Decree, and is a comprehensive scheme for the future development and the present control of planning matters in the area.

163. In Zanzibar the Building Authority dealt with applications to erect 62 new permanent houses, and 2,057 new huts, and to effect alterations and additions to 495 permanent houses and 1,260 huts. In 60 cases it referred applications to the Town Planning Authority where it appeared necessary to obtain its ruling or planning permission.

164. The provisions of the Town and Country Planning Decree also apply in Pemba. For each of the three main townships there is a Town Planning Authority from whom planning permission has to be obtained for the erection of new permanent buildings as well as for major alterations to existing ones. As in Zanzibar, control has been extended outside the township boundaries to ensure that peri-urban development proceeds satisfactorily. The Pemba Building Authority dealt with applications to erect 34 new permanent houses, and 221 new huts. Applications to repair 45 permanent houses, and 281 huts were also considered.

12. Prisons

165. There are two prisons in the Protectorate, one in Zanzibar and one in Wete. In addition, four prison camps exist on Zanzibar island, and one in Pemba.

166. In Wete, a daily sick parade is held at the hospital out-patient clinic for prisoners; those at the prison camp attend Chake Chake hospital.

167. In Zanzibar, the prison has its own treatment room and small twelve-bedded ward under the control of the Medical Officer in charge, Prisons, and a resident Hospital Assistant. All new admissions to the prison are examined by the Medical Officer in charge on his regular visits.

168. In addition to the twelve beds mentioned above, five isolation beds are available for prisoners suffering from communicable diseases.

169. The camps in Zanzibar are supervised by Rural Health Assistants at the Rural Treatment Centre nearest to each camp. Two of the camps receive visits daily, while the others have twice weekly visits.

170. In Zanzibar the Medical Officer visits the prison twice weekly as routine to examine new prisoners, sick prisoners in the infirmary, or those referred to him by the Assistant, to re-examine prisoners selected for transfer to prison camps, to inspect rations as supplied by contractors and generally to supervise living conditions and sanitation in the prison.

171. The following table shows the incidence of sickness in Zanzibar Prison during the year. The number of prisoners continued to increase, and there was a relatively greater increase in admission to the prison hospital. This was largely accounted for by a mild outbreak of chickenpox in which all cases, totalling 59, were admitted for isolation.

<i>Incidence of Sickness</i>			1959		1958
Number of Prisoners admitted in 1959	..	..	1,446	..	1,310
Number of Prisoners under care in 1959	..	..	1,730	..	1,509
Deaths	..	..	1	..	2
Number admitted to Infirmary	..	..	199	..	124
Daily average in Infirmary	..	..	8.6	..	4.6
Number of Out-patients	..	..	8,110	..	8,439
Daily average of Out-patients	..	..	22.2	..	23.1

<i>Attendances at Infirmary</i>			1959	1958	1957
<i>Inpatients:</i>					
Male	..	..	199	122	85
Female	..	..	—	2	1
<i>Out-patients, new:</i>					
Male	..	..	2,467	1,505	1,118
Female	..	..	56	18	25
<i>Out-patients, repetitions:</i>					
Male	..	..	5,337	6,817	4,808
Female	..	..	250	99	285

172. Instances of complaints regarding diet were less frequent than in the preceding year. In cases of genuine dyspepsia adjustments were made to the diet. It was noticeable that in the prison camps it was extremely rare to hear complaints of this nature. Many of the prisoners improved greatly in health on the approved diet together with the treatment of chronic parasitic infections.

173. The prison camps were visited regularly throughout the year; the atmosphere of these is an agreeable blend of discipline and freedom, and the prisoners are obviously better both in mind and body from their stay.

13. Building Construction

174. By the end of the year the new out-patients' block at the Hassanali Karimjee Jivanjee Hospital was completed and occupied in stages. As well as the out-patients' department, together with the minor theatre and dispensary, there is also the Pathology Section and Dental Unit on the first floor.

175. At the Zennubbai Karimjee Hospital, Wete, a similar building was also completed and put into use before the end of the year. This also houses offices for the Medical Officer in charge of the Hospital, and the District Medical Officer, Pemba.

176. The second and subsequent stages of the development had unfortunately to be postponed since it was found that funds available after completing the out-patients' department were insufficient to permit the building of a Womens' Ward as then planned. New plans have now been prepared cutting the cost by approximately 30 per cents, and it is hoped that further developments will be carried out in 1960.

177. The new treatment centre at Fufuni was completed, and also a similar building at Kengeja to replace the old building which had been condemned.

RETURN OF DISEASES: IN-PATIENTS, 1959

Appendix I

<i>C. d.</i>	<i>List No.</i>	<i>Diseases</i>	<i>Total cases treated</i>	<i>Deaths</i>
001,008	A 1	Respiratory Tuberculosis	373	29
010	A 2	Tuberculosis of Meninges and Central Nervous System	1	1
011	A 3	Tuberculosis of Intestines, Peritoneum and Mesenteric Glands	1	—
012-013	A 4	Tuberculosis of bones and joints	3	—
014-09	A 5	Tuberculosis all other forms	8	1
020	A 6	Congenital Syphilis	2	—
021,0.021.1	A 7	Primary Syphilis	—	—
021,2-021,4	A 7	Secondary Syphilis	2	—
024	A 8	Tabes Dorsalis	1	—
025	A 9	General Paralysis of Insane	26	2
022,023	A 10	Cardio Vascular Syphilis	4	—
026-029	A 10	All other Syphilis	15	—
030,031	A 11	Gonorrhoea, Genito-Urinary	33	—
033	A 11	Gonococcal infection of eye	—	—
032,034,035	A 11	Other Gonococcal infections	13	—
040	A 12	Typhoid Fever	73	1
041,042	A 13	Salmonella Infections	1	—
043	A 14	Cholera	—	—
044	A 15	Brucellosis	—	—
045	A 15	Bacillary Dysentery	54	4
046	A 16	Amoebiasis	46	3
047,048	A 16	Other unspecified dysentery	124	10
050	A 17	Scarlet Fever	—	—
051	A 18	Streptococcal Sore Throat	19	1
052	A 19	Erysipelas	—	—
053	A 20	Septicaemia and Pyaemia	2	1
055	A 21	Diphtheria	3	—
056	A 22	Whooping Cough	1	—
057	A 23	Meningococcal Infections	4	—
058	A 24	Plague	—	—
060	A 25	Leprosy	17	2
061	A 26	Tetanus	12	4
062	A 27	Anthrax	—	—
080	A 28	Acute Poliomyelitis	5	1
082	A 29	Acute infectious Encephalitis	—	—
081,083	A 30	Late Effects Poliomyelitis and infectious Encephalitis	—	—
084	A 31	Variola major	—	—
084	A 31	Variola minor	—	—
085	A 32	Measles	25	—
091	A 33	Yellow Fever	—	—
092	A 34	Infectious Hepatitis	138	7
094	A 35	Rabies	—	—
100	A 36	Louse-borne Epidemic Typhus	—	—
101	A 36	Flea-borne Endemic Typhus	—	—
104	A 36	Tick-borne Typhus	—	—
N.O.S. 102-108	A 36	Other Rickettsial Diseases	—	—
110	A 37	B.T. Malaria	11	1
111	A 37	Qt. Malaria	1	—
112	A 37	S.T. Malaria	106	2
115	A 37	Blackwater Fever	—	—
Carried forward ..			1,124	70

Code	List No.	Diseases	Total cases treated	Deaths
		Brought forward ..	1,124 ..	70
N.O.S. 113-117	A 37	Other forms of Malaria	71 ..	2
123.0	A 38	Schistosomiasis (haematobium)	22 ..	1
123.1	A 38	Schistosomiasis (mansoni)	- ..	-
123.2	A 38	Schistosomiasis (japonicum)	- ..	-
123.3	A 38	Other unspecified schistomiasis	2 ..	-
125	A 39	Hydatid Diseases	- ..	-
127	A 40	Onchocerciasis	4 ..	-
	A 40	Loiasis	- ..	-
127	A 40	Filariasis (bancrofti)	37 ..	-
127	A 40	Other Filariasis	15 ..	-
129	A 41	Ankylostomiasis	39 ..	-
126	A 42	Tapeworm and other cestode infestations ..	2 ..	-
130.0	A 42	Ascariasis	15 ..	1
130.3	A 42	Guineaworm	- ..	-
N.O.S.133-130	A 42	Other diseases due to Helminths	- ..	-
037	A 43	Lymphogranuloma Venereum	1 ..	-
038	A 43	Granuloma Inguinale	- ..	-
039	A 42	Other unspecified Venereal diseases	- ..	-
049	A 43	Food poisoning, infective and toxic (excepting Salmonella infections)	2 ..	-
071	A 43	Relapsing Fever	- ..	-
072	A 43	Weil's Disease	- ..	-
073	A 43	Yaws	2 ..	-
087	A 43	Chickenpox	7 ..	-
090	A 43	Dengue	- ..	-
095	A 43	Trachoma	7 ..	-
096.7	A 43	Sandfly fever	- ..	-
120	A 43	Leishmaniasis	- ..	-
121.0	A 43	Trypanosomiasis (Gambiense)	- ..	-
121.0	A 43	Trypanosomiasis (Rhodesiense)	- ..	-
121.2	A 43	Other unspecified trypanosomiasis	- ..	-
131	A 43	Dermatophytosis (Tinea)	2 ..	-
135	A 43	Scabies	1 ..	-
N.O.S.036-122	A 43	Other infectious and protozoal diseases ..	- ..	-
N.O.S.132-138	A 43	Other Parasitic diseases	1 ..	-
140-148	A 44	Malignant Neoplasm Mouth and phagus ..	5 ..	-
150	A 45	Malignant Neoplasm of Oesophagus	- ..	-
151	A 46	Malignant Neoplasm of Stomach	1 ..	-
152,153	A 47	Malignant Neoplasm of Intestine	- ..	-
154	A 48	Malignant Neoplasm of Rectum	3 ..	1
161	A 49	Malignant Neoplasm of Larynx	2 ..	-
162,163	A 50	Malignant Neoplasm of Trachea, bronchus and lung not specified as secondary ..	6 ..	2
170	A 51	Malignant Neoplasm of breast	1 ..	-
171	A 52	Malignant Neoplasm of cervix uteri	5 ..	-
172-174	A 53	Malignant Neoplasm of other unspecified parts of uterus	7 ..	1
177	A 54	Malignant Neoplasm of prostate	5 ..	1
190,191	A 55	Malignant Neoplasm of skin	4 ..	1
196,197	A 56	Malignant Neoplasm of bone and connected tissue	5 ..	1
N.O.S.155-299	A 57	Malignant Neoplasm of all other and unspecified sites	28 ..	10
204	A 58	Leukaemia and Aleukaemia	4 ..	3
200-203, 205	A 59	Lymphosarcoma and other Neoplasm of lymphatic and haematopoietic systems ..	11 ..	2
210-239	A 60	Benig Neoplasms and unspecified Neoplasms	48 ..	1
250,251	A 61	Nontoxic goitre	5 ..	-
252	A 62	Thyrotoxicosis	- ..	-
		Carried forward ..	1,494	96

<i>Code</i>	<i>List No.</i>	<i>Diseases</i>	<i>Total cases treated</i>	<i>Deaths</i>
		Brought forward ..	1,494	96
260	A 63	Diabetes Mellitus	48	5
280	A 64	Beriberi	—	—
281	A 64	Pellagra	—	—
282	A 64	Scurvy	—	—
286.6	A 64	Kwashiorkor	13	1
283-286	A 64	Other Deficiency States	62	4
290	A 65	Pernicious and other hyperchromic anaemia	5	1
291	A 65	Iron deficiency anaemias	252	33
292,293	A 65	Other anaemias	37	9
241	A 66	Asthma	91	3
N.O.S.240-799	A 66	Other allergic endocrin, metabolic and blood diseases	15	1
300-309	A 67	Psychoses	210	1
310-324, 326	A 68	Psychoneuroses and disorders of personality	12	—
325	A 69	Mental deficiency	26	—
330-334	A 70	Vascular lesions affecting central nervous system	15	2
340	A 71	Meningitis (except meningococcal and tuberculous)	3	2
345	A 72	Multiple sclerosis	1	—
353	A 73	Epilepsy	31	1
370-379	A 74	Inflammatory diseases of eye	54	—
385	A 75	Cataract	77	—
387	A 76	Glaucoma	11	—
390	A 77	Otitis externa	6	—
391-393	A 77	Otitis media and mastoiditis	9	—
394	A 77	Other inflammatory diseases of ear	—	—
N.O.S.341-369	A 78	All other diseases of nervous system, sense organs, and auditory system	17	3
395-398	A 78	All other diseases and conditions of eye	70	—
400-402	A 79	Rheumatic fever	—	—
410-416	A 80	Chronic rheumatic heart diseases	5	1
420-422	A 81	Arteriosclerotic and degenerative heart disease	53	10
430-434	A 82	Other diseases of heart	94	23
440-443	A 83	Hypertension with heart disease	38	4
444-447	A 84	Hypertension without mention of heart	47	3
450-456	A 85	Diseases of arteries	2	—
460-468	A 86	Other diseases of circulatory system	6	2
470-475	A 87	Acute upper respiratory infections	75	4
480,483	A 88	Influenza	30	—
490	A 89	Lobar pneumonia	250	4
491	A 90	Bronchopneumonia	87	9
492,493	A 91	Primary atypical, other and unspecified pneumonia	15	—
500	A 92	Acute Bronchitis	97	2
501,502	A 93	Bronchitis, chronic and unqualified	21	—
510	A 94	Hypertrophy of tonsils and adenoids	17	1
518,521	A 95	Empyema and abscess of lung	15	1
519	A 96	Pleurisy	7	1
523	A 97	Pneumoconiosis	2	—
N.O.S.511-527	A 97	All other respiratory diseases	83	1
530	A 98	Dental caries	13	—
531-535	A 98	All other diseases of teeth and supporting structures	12	1
540	A 99	Ulcer of the stomach	34	2
541	A 100	Ulcer of duodenum	8	2
543	A 101	Gastritis and duodenitis	18	—
550-553	A 102	Appendicitis	25	—
		Carried forward ..	3,613	234

<i>Code</i>	<i>List No.</i>	<i>Diseases</i>	<i>Total cases treated</i>	<i>Deaths</i>
		Brought forward ..	3,613	234
560-561, 570	A 103	Intestinal obstruction and hernias	518	25
571.0	A 104	Gastro-enteritis and colitis between 4 weeks and 2 years	107	20
571.1	A 104	Gastro-enteritis and colitis ages 2 years and over	110	4
572	A 104	Chronic enteritis and ulcerative colitis ..	5	1
581	A 105	Cirrhosis of liver	34	6
584,585	A 106	Cholelithiasis and Cholecystitis	17	1
536,587	A 107	Other diseases of digestive system	155	10
590	A 108	Acute nephritis	9	—
591-594	A 109	Chronic, other and unspecified nephritis ..	6	—
600	A 110	Infections of kidney	14	—
602,604	A 111	Calculi of urinary system	3	—
610	A 112	Hyperplasia of prostate	42	3
620,621	A 113	Diseases of breast	8	—
613	A 114	Hydrocele	152	—
634	A 114	Disorder of Menstruation	18	—
N.O.S.601-617	A 114	Other diseases of genito-urinary system and male genital organs	269	4
N.O.S.622-637	A 114	Other diseases of uterus and female genital organs	246	—
640-641, 681, 682, 684	A 115	Sepsis of pregnancy, childbirth and the puerperium	9	1
642,652,685,686	A 116	Toxaemias of pregnancy and the puerperium	54	3
643,644	A 117	Haemorrhage of pregnancy and childbirth ..	10	2
650	A 118	Abortion without mention of sepsis or toxaemia	186	—
650	A 119	Abortion with sepsis	15	1
660	A 120	Delivery without complications	1,315	—
N.O.S.645,689	A 120	Other complications of pregnancy, childbirth and puerperium	166	14
690,689	A 121	Infections of skin and subcutaneous tissue ..	448	7
720,725	A 122	Arthritis and spondylitis	76	—
726,727	A 123	Muscular rheumatism and rheumatism unspecified	25	—
730	A 124	Osteomyelitis and periostitis	31	—
737,745,749	A 125	Ankylosis and acquired musculo skeletal deformities	1	—
715	A 126	Chronic ulcer of skin	39	1
700-714, 716	A 126	All other diseases of skin	41	—
731-736,738-744	A 126	All other diseases of musculo skeletal system	37	1
751	A 127	Spina bifida and meningocele	1	—
754	A 128	Congenital malformations of circulatory system	—	—
N.O.S.750-759	A 129	Other congenital malformations	3	1
760-761	A 130	Birth injuries	—	—
762	A 131	Post-natal asphyxia and atelectasis	—	—
764	A 132	Diarrhoea of newborn (under four weeks) ..	2	1
765	A 132	Ophthalmia neonatorum	—	—
763,766,768	A 132	Other infections of newborn	1	—
770	A 133	Haemolytic disease of newborn	5	1
769,771,772	A 134	All other defined diseases of early infancy ..	5	3
773,776	A 135	Ill-defined diseases peculiar to early infancy and immaturity unqualified	3	—
794	A 136	Senility without mention of Psychosis ..	122	71
788.8	A 137	Pyrexia of unknown origin	215	9
793	A 137	Observation, without need for further medical care	259	1
N.O.S.780-795	A 137	All other ill-defined causes of morbidity ..	27	4
N.800-N.804	AN. 138	Fracture of skull	15	3
N.805-N.809	AN. 139	Fracture of spine and trunk	70	3
		Carried forward ..	8,507	435

<i>Code</i>	<i>List No.</i>	<i>Diseases</i>	<i>Total cases treated</i>	<i>Deaths</i>
		Brought forward	.. 8,507	.. 435
N.810-N.829	AN. 140	Fracture of limbs	201	.. 1
N.830-N.839	AN. 141	Dislocation without fracture	16	.. —
N.840-N.848	AN. 142	Sprains and strains of joints and adjacent muscles	56	.. —
N.850-N.856	AN. 143	Head injuries (excluding fracture)	44	.. 4
N.860-N.869	AN. 144	Internal injury of chest, abdomen and pelvis ..	6	.. 1
N.870-N.908	AN. 145	Laceration and open wounds	172	.. 2
N.910-N.929	AN. 146	Superficial injury, contusion and crushing with intact skin surface	89	.. 1
N.930-N.936	AN. 147	Effects of foreign body entering through orifice	16	.. —
N.940-N.949	AN. 148	Burns	70	.. 8
N.960-N.979	AN. 149	Effects of poisons	41	.. 1
N.950-959				
N.980-999	AN. 150	All other unspecified effects of external causes	127	.. 46
TOTAL			.. 9,345	.. 499

RETURN OF DISEASES: OUT-PATIENTS, 1959

Appendix II

Code	Diseases	
001-008	Respiratory Tuberculosis	332
010-019	Other Tuberculosis	157
020-029	Syphilis	720
030-035	Gonorrhoea	4,343
036-039	Other Venereal Diseases	425
045	Bacillary Dysentery	816
046	Amoebic Dysentery	248
055	Diphtheria	2
056	Whooping Cough	473
057-340	Meningitis (Excluding Tuberculosis)	2
058	Plague	—
060	Leprosy	100
061	Tetanus	4
071	Relapsing Fever	—
073	Yaws	7,212
080	Acute Poliomyelitis	3
084	Variola major	—
084	Variola minor	—
085	Measles	2,729
086	Rubella	—
087	Chicken Pox	1,890
089	Mumps	492
092	Infectious Hepatitis	1,970
095	Trachoma	46
110	B. T. Malaria	1,890
111	Qt. Malaria	388
112	S. T. Malaria	4,465
113-117	Other forms of Malaria	5,866
115	Blackwater	—
121	Trypanosomiasis	—
123-0	Schistosomiasis (haematobium)	3,313
123-1	Schistosomiasis (mansoni)	465
126	Tapeworm	87
127	Onchocerciasis	—
129	Ankylostomiasis	3,251
130.0	Ascariasis	516
131	Tinea	369
135	Scabies	3,767
N.O.S.		
036-138	Other infective and parasitic diseases	934
140-205	Malignant Neoplasms	122
210-239	Benign and other Neoplasms	249
241	Asthma	1,551
286.6	Kwashiorkor	18
290-293	Anaemia	23,263
240-299	Other allergic, endocrine, metabolic and nutritional diseases	1,952
300-326	Mental disorder	2
353	Epilepsy	12
330-369	Other diseases of the nervous system and sense organs	2,010
370	Conjunctivitis and Ophthalmia	12,379
373	Stye	143
389	Blindness	51
371-388	Other diseases of eye (not trachoma)	2,871
390-398	Diseases of ear and mastoid process	5,471
400-447	Diseases of the Heart	269
450-468	Other Circulatory diseases	324
Carried forward ..		97,962

<i>Code</i>	<i>Diseases</i>	
	Brought forward ..	97,962
490-493	Pneumonia	1,087
470-527	Other diseases of the respiratory system (including coryza, pharyngitis, and bronchitis)	40,553
530	Dental caries	2,043
538	Stomatitis and other diseases of the buccal cavity	2,176
560.561,570	Intestinal obstruction and hernia	1,063
571.0	Gastroenteritis under two years	6,099
571.1	Gastroenteritis over two years	4,312
537-587	Other diseases of Digestive System	21,926
613	Hydrocele	68
590.617	Other diseases of genito-urinary system and male genital organs	2,956
636	Sterility (female)	17
620-637	Other diseases of uterus and female genital organs	1,106
—	Normal pregnancy	3,616
650-650	Abortion	99
640-689	Other diseases of childbirth	16
690-698	Boils and infection of skin and subcutaneous tissue	12,463
715	Chronic ulcers	9,914
700-716	Other diseases of the skin	4,395
720-759	Diseases of bones, joints, and malformation	13,634
760-776	Neonatal diseases	4
788.8	Pyrexia of unknown origin	11,546
780.795	All other ill-defined causes of morbidity	12,039
N800-N839	Fractures and dislocations	259
N840-N848	Sprains	2,000
N930-N936	Foreign bodies	478
N940-N949	Burns and Scalds	1,432
N960-N979	Poisoning	40
N850-N999	Other injuries and wounds	15,031
Y00-Y18	Examination	1,141
	TOTAL ..	<u>270,090</u>

N.O.S. means "Not Otherwise Specified", i.e. N.O.S. 102-108 means all other diseases included between these numbers in the International Classification to be entered in this line if not otherwise specified in any line elsewhere.